

Checkpoint #3

Source: Adapted from "Measures of Center", Michelle Everson, University of Minnesota

NAME _____

The following table shows the net worth of the 15 richest people in the world (according to *Forbes*, 2005).

| Name | Worth (in billions) |
|----------------------------------|---------------------|
| Bill Gates | 46.5 |
| Warren Buffett | 44.0 |
| Lakshmi Mittal | 25.0 |
| Carlos Slim Helu | 23.8 |
| Prince Alwaleed Bin Talal Alsaud | 23.7 |
| Ingvar Kamprad | 23.0 |
| Paul Allen | 21.0 |
| Karl Albrecht | 18.5 |
| Lawrence Ellison | 18.4 |
| S. Robert Walton | 18.3 |
| Jim Walton | 18.2 |
| John Walton | 18.2 |
| Alice Walton | 18.0 |
| Helen Walton | 18.0 |
| Kenneth Thomson and family | 17.9 |

1.) Create a dot plot of Worth in the space below. Describe the shape of the dot plot. Are there any obvious gaps or outliers? About where do you believe is the center of the distribution? Describe the spread of data values.

2.) Create a box plot of the Worth variable. Do you detect any outliers? If so, which individual(s) is/are represented by the outlier(s)?

3.) Find the mean and median of the data.

4.) Let's see what happens to our measures of center when we remove the outlier(s). Remove all of the outliers that you identified in question 2 from the data set. Once you have removed the outlier(s), find the new mean and median. Write those values below.

5.) How do the mean and median change when you remove the outlier(s)? Why do you think they change in this way?

6.) Which measure of center (the mean or median) is RESISTANT? Why?

The following table shows the net worth of the 15 richest people in the world (according to *Forbes*, 2007).

| NAME | Worth (in billions) |
|------------------|---------------------|
| Warren Buffett | 62.0 |
| Carlos Slim Helu | 60.0 |
| Bill Gates | 58.0 |
| Lakshmi Mittal | 45.0 |
| Mukesh Ambani | 43.0 |
| Anil Ambani | 42.0 |
| Ingvar Kamprad | 31.0 |
| KP Singh | 30.0 |
| Oleg Deripaska | 28.0 |
| Karl Albrecht | 27.0 |
| Li Ka-shing | 26.5 |
| Sheldon Adelson | 26.0 |
| Bernard Arnault | 25.5 |
| Lawrence Ellison | 25.0 |
| Roman Abramovich | 23.5 |

7.) Draw side-by-side box plots of the net worth of the 15 richest people in the world in 2005 and 2007. Write a comparison using the vocabulary and concepts you have learned about 5 # summaries.